

## ABSTRACT

The present invention is a method for analyzing a biological sample using a Fourier Transform Mass Spectrometer comprising the steps of ionizing a sample to produce sample ions; introducing  
5 said sample ions into an analysis region of said Fourier Transform Mass Spectrometer; analyzing said sample ions to determine the molecular weight and abundance of said sample ions; utilizing said molecular weight to determine the empirical formula of each species of said sample; and identifying each of said species by comparing said empirical formula to a database of formulas for known molecules.